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Title of Document Transmitted:	**TRANSMITTAL DOCUMENTS AND BRIEF OF APPELLANTS**
Applicant:	Stephen F. Sichi et al.
Serial No.:	09/972,107
Filed:	October 5, 2001
Group Art Unit:	2643
Title:	SATELLITE TRANSPONDER ARCHITECTURE WITH INTEGRAL REDUNDANCY AND BEAM SELECTION CAPABILITIES
Our Ref. No.:	PD-00-385

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Due Date: January 10, 2006

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant:	Stephen F. Sichi et al.	Examiner:	Binh Kien Tieu
Serial No.:	09/972,107	Group Art Unit:	2643
Filed:	October 5, 2001	Docket:	PD-00-385
Title:	SATELLITE TRANSPONDER ARCHITECTURE WITH INTEGRAL REDUNDANCY AND BEAM SELECTION CAPABILITIES		

CERTIFICATE OF MAILING OR TRANSMISSION UNDER 37 CFR 1.8

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Due Date: January 10, 2006

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In re Application of:	
Inventor: Stephen F. Sichi et al.	Examiner: Binh Kien Tieu
Serial #: 09/972,107	Group Art Unit: 2643
Filed: October 5, 2001	Appeal No.: _____
Title: SATELLITE TRANSPONDER ARCHITECTURE WITH INTEGRAL REDUNDANCY AND BEAM SELECTION CAPABILITIES	

CERTIFICATE OF MAILING OR TRANSMISSION UNDER 37 CFR 1.8

I hereby certify that this correspondence is being filed via facsimile transmission to the U.S. Patent and Trademark Office on January 10, 2006.

By: _____
Name: Victor G. Cooper

BRIEF OF APPELLANTS

MAIL STOP APPEAL BRIEF - PATENTS
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

In accordance with 37 CFR §1.192, Appellants hereby submit the Appellants' Brief on Appeal from the final rejection in the above-identified application, as set forth in the Office Action dated August 10, 2005.

Please charge the amount of $500.00 to cover the required fee for filing this Appeal Brief as set forth under 37 CFR §1.17(c) to Deposit Account No. 50-0494 of Gates & Cooper LLP. Also, please charge any additional fees or credit any overpayments to Deposit Account No. 50-0494.

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I. REAL PARTY IN INTEREST

The real party in interest is The Boeing Company, the assignee of the present application.

II. RELATED APPEALS AND INTERFERENCES

There are no related appeals or interferences for the above-referenced patent application.

III. STATUS OF CLAIMS

Claims 1-3, 5-15, and 17-26 are pending in the application.

Claims 1-3, 5-15, and 17-26 were rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 6,020,796 to Collar et al. (Collar), and these rejections are being appealed.

Claims 18 and 20 were rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 5,649,306 to Vannatta et al. (Vannatta), and these rejections are being appealed.

Claims 18 and 20 were rejected under 35 U.S.C. §102(e) as being anticipated by U.S. Patent No. 6,560,443 to Vaisannen et al. (Vaisannen), and these rejections are being appealed.

IV. STATUS OF AMENDMENTS

No amendments to the claims have been made subsequent to the final Office Action.

V. SUMMARY OF CLAIMED SUBJECT MATTER

With respect to independent claim 1, the subject matter is evidenced by a transponder system, which is illustrated in FIG. 1 as element 100 and is described in the specification on page 5, lines 1-12. The transponder system 100 comprises an amplifier network having a plurality of amplifiers (illustrated in FIG. 3 as 302). The transponder system 100 also comprises an antenna network that has plurality of antennae (illustrated in FIG. 3 as 106 and 208A-208C, respectively); a single rail output switching network (illustrated in FIG. 3 as 300, including a first output switching network switch (304 in FIG. 3), selectably coupling one of the amplifiers (302 in FIG. 3) to one of the plurality of antennae (208A in FIG. 3) at a first output switching network switch first switch state and to a second output switching network switch (208B in FIG. 3) in a first output switch

network switch second switch state. The second output switching network switch 208B is further selectably coupled to a second one of the plurality of antennae (208B in FIG. 3) in a second output switching network switch first switch state and to a third one of the plurality of antennae (208C in FIG. 3) in a second output switching network switch second switch state. All of the foregoing is described in the Applicant's specification at page 6, lines 3-22.

With respect to claim 11, the subject matter is evidenced by a network, comprising a first device network (item 101 of FIG. 1, and described in the specification at page 5, lines 1-12 of the specification) having a plurality of first devices, a second device network (item 106 of FIG. 1 and described in the specification at page 5, lines 1-12), having a plurality of second devices; and a single rail output switching network (300 in FIG. 3), communicatively coupling any of the second devices (106) with any of the first devices (101). These elements are discussed in the specification at page 5, lines 1-12 and page 6, lines 3-10. The foregoing is further illustrated and described with in FIG. 5 and the related text, wherein the first device network is an antenna network represented by elements 542A-542F, the second device network is an amplifier network represented by elements 502 and 522. These elements and their operation are discussed in the specification at page 6 line 25 through page 7, line 7.

With respect to claim 18, the subject matter is evidenced by a method of providing a signal to any one of a plurality of output devices (elements 542A-542E in FIG. 5, for example), comprising the steps of receiving the signal in a first switch (element 504 in FIG. 5, for example), selectably coupling the signal to a first output device (element 542A in FIG. 5, for example) or a second switch (element 508 in FIG. 5, for example) via a first switch according to a first switch selection, and selectably coupling the signal from the first switch (element 504) to a second output device (element 542C in FIG. 5, for example) or a third output device (element 542B in FIG. 5, for example) if the signal is not coupled to the first output device (element 542A in FIG. 5, for example) via the second switch (element 508 in FIG. 5, for example) according to a second switch selection. All of the foregoing are discussed in the specification at page 6, line 25 through page 7, line 7.

With respect to claim 20, the subject matter is evidenced by an apparatus providing a signal to any one of a plurality of output devices. The apparatus comprises a first switch item 504 in FIG. 5, for example) for receiving the signal and for selectably coupling the signal to a first output device

(element 542A in FIG. 5, for example) or a second switch (element 508 in FIG. 5, for example) via the first switch (504) according to a first switch selection; and a second switch (item 508 in FIG. 5, for example) for selectably coupling the signal from the first switch (504) to a second output device (542B in FIG. 5, for example) or a third output device (542C in FIG. 5, for example) if the signal is not coupled to the first output device (542A) via the second switch (508) according to a second switch selection. The foregoing are also discussed in the specification at page 6, line 25 through page 7, line 7

With respect to claim 22, the subject matter is evidenced by an apparatus for providing a signal to any one of a plurality of output devices. The apparatus comprises means for receiving the signal. The structure material, or acts which conform to this means can include the input antenna network (item 101 of FIG. 1), input network (item 102 of FIG. 1, the network of amplifiers (502 and 522 of FIGs. 5 and 6), antennae input group1 and 2 (items 854 and 856 of FIG. 8), the first section 828, or second section 830 illustrated in FIG. 8. These are described at page 5, lines 1-12, page 6, line 25 through page 17, line 19, and page 8, line 15 to page 7, line 10 of the specification. The apparatus also comprises a first means (element 504 of FIGs. 5 and 6) for selectably coupling the signal to a first output device (542A of FIGs. 5 and 6) or a second selectably coupling means (508 of FIGs. 5 and 6), wherein the second selectably coupling means selectably couples the signal from the first selectably coupling means to a second output device (542B of FIGs. 5 and 6) or a third output device (542C of FIGs. 5 and 6) if the signal is not coupled to the first output device (542A).

VI. GROUNDS FOR REJECTION TO BE REVIEWED ON APPEAL

Whether claims 1-3, 5-15, and 17-26 are patentable under 35 U.S.C. § 102(b) over U.S. Patent No. 6,020,796, issued to Collar et al. (hereinafter, the Collar reference).

Whether claims 18 and 20 are patentable under 35 U.S.C. § 102(b) over U.S. Patent No. 5,649,306 issued to Vannatta et al. (hereinafter, the Vannatta reference).

Whether claims 18 and 20 are patentable under 35 U.S.C. § 102(e) over U.S. Patent No. 6,560,443 issued to Vaisannen et al. (hereinafter, the Vaisannen reference).

VII. GROUPING OF CLAIMS

The rejected claims do not stand or fall together. Each claim is independently patentable. Separate arguments for the patentability of each claim are provided below.

VIII. ARGUMENTS

A. Claims 1-3, 5-15, and 17-26 are Patentable under 35 U.S.C. § 102(b) over U.S. Patent No. 6,020,796 (Collar)

1. The Collar Reference

U.S. Patent No. 6,020,796 issued February 1, 2000, to Collar et al. discloses a switching means for use on-board a spacecraft. The switching means has a first set of switches for receiving respective channel slots of de-multiplexed narrow band channels. The set of switches may be made up of four position switches 5.sup.1, 5.sup.2 etc. Switch 5.sup.2 may be connected straight through, or to the straight through positions of switches 5.sup.1 and or 5.sup.3 via interswitch connections. The same is possible with the second set of switches 6. A wide selection of the possible frequency slots is possible (for example eight out of sixteen) to allow routing among the amplifiers 9, 10, some of which are designated as redundant.

2. Claims 1-3, 5-15, and 17-26 Are Patentable Over the Collar Reference

The Final Office Action reasserts the rejection of rejected claims 1-3, 5-15, and 17-26 under 35 U.S.C. § 102(b) as being anticipated by Collar. The Applicants respectfully traverse.

With Respect to Claims 1-3, 5-10, and 11-17: As amended, claim 1 recites:

> *An transponder system, comprising:*
> *an amplifier network having a plurality of amplifiers;*
> *an antenna network, comprising a plurality of antennae;*
> *a single rail output switching network, including a first output switching network switch, selectably coupling one of the amplifiers to one of the plurality of antennae at a first output switching network switch first switch state and to a second output switching network switch in a first output switch network switch second switch state; and*
> *wherein the second output switching network switch is selectably coupled to a second one of the plurality of antennae in a second output switching network switch first switch state and to a third one of the plurality of antennae in a second output switching network switch second switch state.*

In response to the First Office Action, the Applicants pointed out that the Collier reference disclosed a rather traditional dual rail switching network, not the single rail network with the connectivity described in claim 1. In response, The Final Office Action states that the teachings of col. 5, lines 17-21

> "teaches other embodiments that rearranges the dual rings into a single ring or single rail with deletions of existing links or rings." (emphasis added)

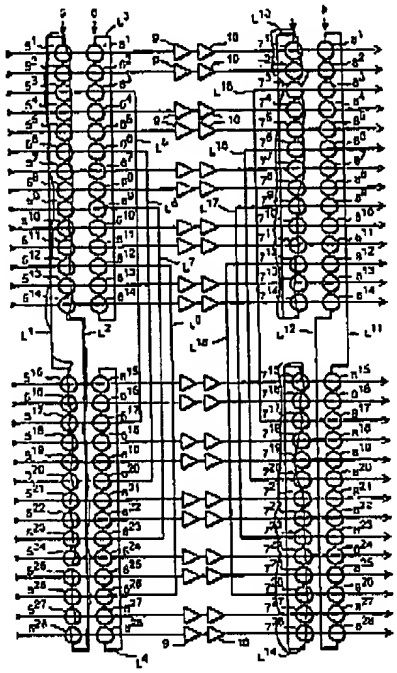
This statement incorrectly equates *rings* with *rails*. The two structures are not the same. Further, even if the teaching of the Collier reference were applied (it is reproduced below), the resulting structure is nothing like that which is recited in claim 1. The referenced portion of the Collar reference are presented below:

> Of course variations are possible without departing from the scope of the invention. Thus, while twenty-eight switches are shown, the invention is applicable to more or less then this number. Equally while twenty amplifiers are shown, six being redundant, different numbers of redundant amplifiers may be provided, and different numbers of amplifiers designated as working may be provided, depending on the number of channels being used. The switches 5 (and 8) may be arranged in two rings, like the switches 6, 7, or the latter may be arranged in a single ring. Alternatively, the links L.sup.1, L.sup.2 may be omitted altogether, as could be the links L.sup.5, L.sup.6, L.sup.7, L.sup.8, and similarly on the output side. While it is preferred that all the switches are four port switches, some of the switches may be two port switches (either allowing straight through communication or preventing straight through communication), or some may be three port (adjacent pairs of switches 5 or 6 may be interconnected but not connected to the switches on either side of the pair, with the corresponding changes on the output side.)

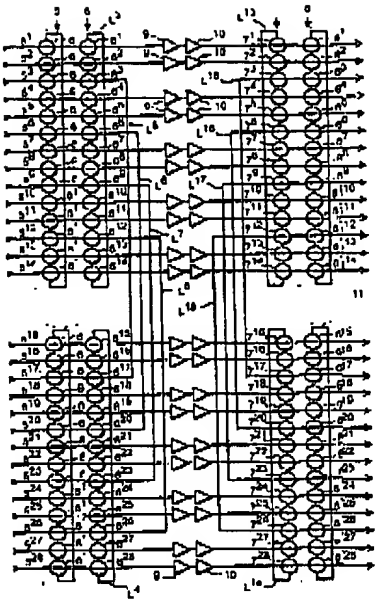
Turning to each of these teachings one at a time:

Changing the number of switches or amplifiers: No analysis is required here. Clearly, the basic architecture does not change in this instance.

"The Switches 5 (and 8) may be arranged in two rings, like the switches 6 and 7": Referring to FIG. 3 below, one can see that switches 5 (with the additional black line) and 8 are arranged into one ring, while switches 6 (also with an additional black line) and 7 are arranged into two rings:



This suggested modification (arranging switches 5 and 6 into two "rings") would result in the following structure:

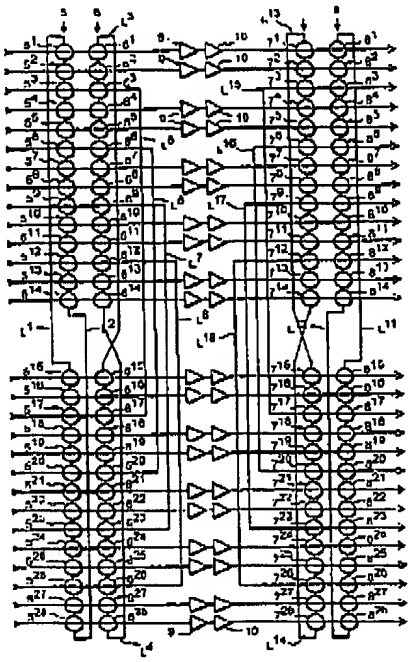


As a threshold matter, this is not a single rail output switching network. It is a double rail input switching network combined with a double rail output switching network.

The foregoing also does not disclose a structure with a first switch selectably coupling one of the amplifiers to one of a plurality of antennae in a first state and a second switch in a second state along wherein the second output switch is selectably coupled to a second one of the plurality of antennae in a first switch state and a third one of the plurality of antennae in the second switch state.

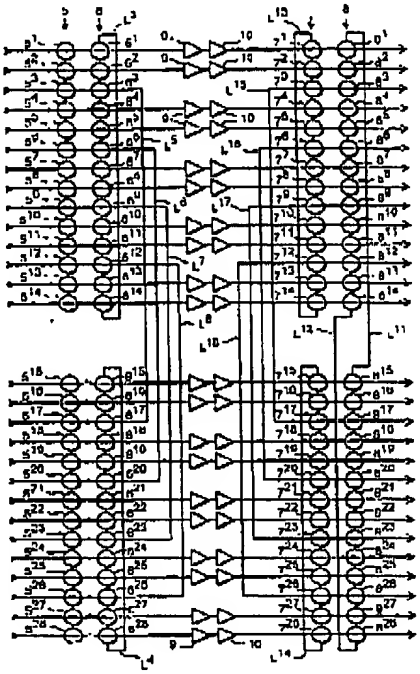
Switches 7^1-7^{28} select between switches 8^1-8^{28} (which now read as 6^1-6^{28} in order for the Applicant to modify FIG. 3 as required) respectively, not a one of a plurality of antennae. Only switches 8^1-8^{28} switch between a second switch (e.g. the switch above or below it) and an antenna (the output). Claim 1 then requires that one of these switches is coupled to a *second one of the plurality of antennae* when in a first state and a *third one of the plurality of antennae* when in a second switch state. Switches 6^1-6^{28} clearly do not provide this arrangement. If the Applicants are incorrect about this, they would appreciate the guidance as to which switches must be in which position for the above structure to read on claim 1. As far as the Applicants can tell, no combination of switch positions can provide a structure that reads on the Applicants' claims.

"... or the latter may be arranged in a single ring": This teaches the following structure:



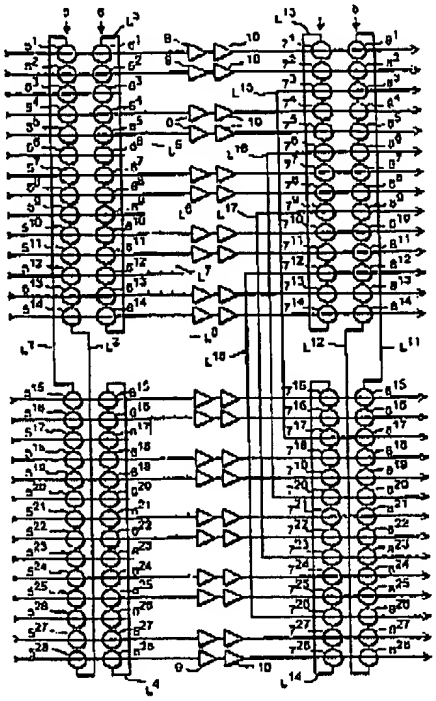
This is also not a single rail output switching network. It is a double rail output switching network in which the output signal always passes through at least two switches. Likewise, it does not disclose the connectivity recited in claim 1.

"Alternatively, the links L.sup.1, L.sup.2 may be omitted altogether": This results in the following structure



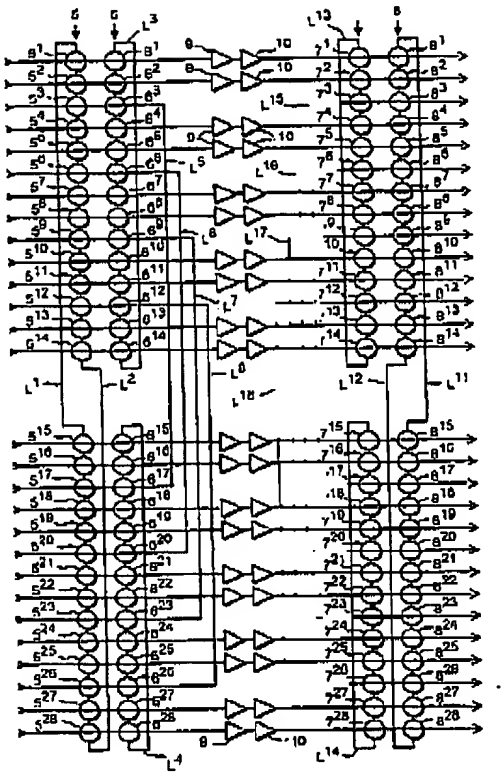
L1 an L2 were part of the *input* switching network, not the *output* switching network. But in any case, this likewise discloses a double rail input and double rail output structure in which the output signal always passes through at least two switches.

"...as could be the links L.sup.5, L.sup.6, L.sup.7, L.sup.8:



Again, links L5-L8 are on the input switching network, not the output. But in any case, the result is still a double rail structure in which the output signal always passes through at least two switches.

"and similarly on the output side":



Here, we have the modifications on the output switching network, but it still discloses a double rail switching network in which the output signal always passes through at least two switches.

With regard to this construct, the Office Action remarks:

"links L_{12}, L_{13}, L_{15} through L_{18} on the output side are eliminated. Therefore only link L_{11} (single ring) is a single rail on the output side of figure 3",

however, this is not true. With the modifications above, the output switching network remains a dual rail network (switches 7 and 8), because the switches in the first rail (7) are still used to route the signals from the amplifiers to the switches in the second rail (8). The Office Action has erroneously interpreted Collar to infer that the first rail (7) can be eliminated, and this is not what Collar teaches or suggests.

The analysis of claim 11 is analogous.

Claims 2, 3, 5-10, and 12-17 recite the features of claims 1 and 11, respectively, and are patentable on the same basis.

With Respect to Claims 18, 19, and 24: Claim 18 recites:

A method of providing a signal to any one of a plurality of output devices, comprising the steps of:
receiving the signal in a first switch;
selectably coupling the signal to a first output device or a second switch via a first switch according to a first switch selection; and
selectably coupling the signal from the first switch to a second output device or a third output device if the signal is not coupled to the first output device via the second switch according to a second switch selection.

Claim 18 recites the step of selectably coupling the signal to a first output device or a second switch via a first switch according to a first switch selection. The Collar reference discloses a system in which the signal (presumably from one of the amplifiers) is selectably coupled to a second switch (in the adjacent rail) or a third switch (in the same rail) according to the first switch selection. Further, the Collar reference discloses selectably coupling the signal from the first switch to yet another switch (not an output device). Accordingly, the Applicants respectfully traverse.

Claim 19 recites the features of claim 18 and is patentable on the same basis.

Claim 24 recites that the signal of claim 18 is selectably coupled to the first output device by no more than one switch. The First Office Action asserted that after Collar is rearranged as described, only row 8 remains, thus presenting a single rail. The problem with this argument is that there is no suggestion in Collar to eliminate rail (7). As presented above, the switches in rail (7) remain. Accordingly the Applicants respectfully traverse.

With Respect to Claims 20, 21, and 25: Claim 20 recites:

An apparatus for providing a signal to any one of a plurality of output devices, comprising:
a first switch for receiving the signal and for selectably coupling the signal to a first output device or a second switch via the first switch according to a first switch selection; and
a second switch for selectably coupling the signal from the first switch to a second output device or a third output device if the signal is not coupled to the first output device via the second switch according to a second switch selection.

Claim 20 recites a first switch for receiving the signal and selectably coupling the signal to a first output device or a second switch via the first switch according to a first switch selection. As described above, the Collar reference discloses a system in which the signal (presumably from one of

the amplifiers) is selectably coupled to a second switch (in the adjacent rail) or a third switch (in the same rail) according to the first switch selection. Further, the Collar reference discloses selectably coupling the signal from the first switch to yet another switch (not an output device). Accordingly, the Applicants respectfully traverse.

Claim 21 recites the features of claim 20 and is patentable on the same basis.

Claim 25 recites that the first switch is coupled directly to the first output device. This feature is not disclosed in the Collar reference.

With Respect to Claims 22, 23, and 26: Claim 22 recites:

An apparatus for providing a signal to any one of a plurality of output devices, comprising the steps of:
means for receiving the signal;
first means for selectably coupling the signal to a first output device or a second selectably coupling means, wherein the second selectably coupling means selectably couples the signal from the first selectably coupling means to a second output device or a third output device if the signal is not coupled to the first output device.

Claim 20 recites features analogous to those of claim 22, but in functional form. Claim 22 is patentable for the same reasons.

Claims 23 and 26 depend on claim 22 and are patentable on the same basis. Also, with respect to claim 23, the Collar reference does not disclose selectably decoupling the signal from the first switch and coupling a backup input signal to the first switch if the input signal is unavailable.

With respect to claim 26, Collar does not disclose a system wherein the first means is coupled directly to the first output device.

B. Claims 18 and 20 are patentable under 35 U.S.C. § 102(b) over U.S. Patent No. 5,649,306 (Vannatta)

1. The Vannatta Reference

U.S. Patent No. 5,649,306, issued July 15, 1997 to Vannatta et al. discloses a portable radio housing incorporating diversity antenna structure. The radio communication device (50) has a housing having a first housing element (51) and a second housing element (53). The first housing element (51) is movable between an extended and a closed position. The radio communication device has at least two antennas (112, 113). A switch (121) is provided that is operable to switch between a first antenna (112) and a second antenna (113) responsive to position of the first housing

element (51). Preferably the first antenna (112) is disposed in the first housing element (51) and the second antenna (113) is disposed in the second housing element (53) or a battery housing (57).

2. Claims 18 and 20 are Patentable Over the Vannatta Reference

Claim 18 was also rejected under Vannatta. The Final Office Action argues that the step of selectably connecting the received signal a first output device or a second switch via a first switch is disclosed by "selecting connecting the received signal to either the speakerphone 178 or the sensor 199." However, the switch 121 operates to couple either antenna 112 or antenna 120 to switch 130. It does not provide the signal from 112 to either an output device or a switch, as recited in claim 18.

Further, the input signal is never connected to an output device at all. Instead, it is provided to receiver circuitry 166, processor 198, and transmitter circuitry 190, where it is substantially processed, and an entirely different signal is provided to the output devices. Connecting a speaker 178 to the signal from the antenna 112 would provide nothing but silence.

Finally, the Office Action indicates that the step of selectably coupling the signal from the first switch to the second output device or a third output device via the second switch according to a second switch selection is disclosed by "selectively coupling the received signal to one of the output devices of the speakerphone 178 and microphone via switches 121 and 130." However, (1) a microphone is not an output device, (2) the switches do not provide the signal as alleged, and (3) the signals that are provided to the speakerphone are not the same as the received signal.

C. Claims 18 and 20 are patentable under 35 U.S.C. § 102(e) over U.S. Patent No. 6,560,443 (Vaisannen)

1. The Vaisannen Reference

U.S. Patent No. 6,560,443, issued May 6, 2003 to Vaisannen et al. discloses an antenna sharing switching circuitry for multi-transceiver mobile terminal. Antenna switching circuitry in a multi-transceiver mobile terminal 10, which features a first switching unit (SW1) which controllably couples a first transceiver port (P.sub.1) to either a first antenna port (P.sub.A1) or a second antenna port (P.sub.A2); and a second switching unit (SW2) which controllably couples the second antenna port (P.sub.A2) to either the first transceiver port (P.sub.1), through the first switching unit (SW1),

or to an input/output port (P.sub.I/O) of a second transceiver (12). According to this scheme, the second antenna port is coupled to the input/output port of the second transceiver (12) in a mode in which the second transceiver (12) is operational, the first transceiver port (P.sub.1) being decoupled from the second antenna port at this time, wherein the first transceiver port is coupled to the first antenna port and the input/output port of the second transceiver (12) is decoupled from the second antenna port, when the first transceiver is in a transmit mode, and wherein the first transceiver port is coupled to either of the first and second antenna ports, when the first transceiver (11) is in a receiving mode and the input/output port of the second transceiver (12) is decoupled from the second antenna port.

2. Claims 18 and 20 are Patentable over the Vaisannen Reference

Here, the Final Office Action argues that SW2 connecting to BT or WLAN 11 reads on selectably coupling the signal to a first output device or a second switch. (The claim recites that the signal is connected to a first output device or a second switch, so the Applicants will assume the Examiner meant that this feature is shown by SW2 connecting to BT or SW1). The Office Action then argues that the step of selectably coupling the signal from the first switch to a second output device or a third output device if the signal is not coupled to the first output device via the second switch is shown by "selectively coupling the received signal to one of the output devices of 'BT 12' and 'WLAN 11' via one or both of switches 'SW1' and 'SW2'". However, plainly, SW1 does not couple the signal to a second output device and a third output device as required ... it merely connects the signal to the WLAN, but not a third device.

IX. CONCLUSION

In light of the above arguments, Appellants respectfully submit that the cited references do not anticipate nor render obvious the claimed invention. More specifically, Appellants' claims recite novel physical features, which patentably distinguish over any and all references under 35 U.S.C. §§ 102 and 103. As a result, a decision by the Board of Patent Appeals and Interferences reversing the Examiner and directing allowance of the pending claims in the subject application is respectfully solicited.

Respectfully submitted,

GATES & COOPER LLP

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Date: January 10, 2006

By: _____

Name: Victor G. Cooper
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VGC/bjs/mrj

Enclosures: Claims Appendix
Evidence Appendix
Related Proceedings Appendix

G&C 147.57-US-01

CLAIMS APPENDIX

1. (PREVIOUSLY PRESENTED) An transponder system, comprising:

an amplifier network having a plurality of amplifiers;

an antenna network, comprising a plurality of antennae;

a single rail output switching network, including a first output switching network switch, selectably coupling one of the amplifiers to one of the plurality of antennae at a first output switching network switch first switch state and to a second output switching network switch in a first output switch network switch second switch state; and

wherein the second output switching network switch is selectably coupled to a second one of the plurality of antennae in a second output switching network switch first switch state and to a third one of the plurality of antennae in a second output switching network switch second switch state.

2. (PREVIOUSLY PRESENTED) The transponder system of claim 1, wherein:

the output switching network defines a plurality of signal paths between a first amplifier of the set of amplifiers and a first antenna of the set of antennae, the communication paths including:

a first signal path from the first amplifier to the first antenna via the first output switching network switch and not the second output switching network switch; and

a second signal path from the first amplifier to a second antenna of the antennae network via the first output switching network switch and the second output switching network switch.

3. (ORIGINAL) The transponder system of claim 2, wherein:

the first signal path is a primary signal path and the second signal path is a backup signal path.

4. (CANCELED)

5. (ORIGINAL) The transponder system of claim 1, further comprising:

an input switching network, having a plurality of input switching network inputs, a plurality of input switching network outputs, and a plurality of input switches selectably communicatively coupling the input switching network inputs with the input switching network outputs, and

wherein the input switching network outputs are communicatively coupled to the amplifier network.

6. (ORIGINAL) The transponder system of claim 5, wherein the input switching network is a single rail input switching network.

7. (ORIGINAL) The transponder system of claim 6, wherein

the input switching network is communicatively coupled to the amplifier network via a routing switch network having a plurality routing switch network inputs communicatively coupled to the plurality of input switching network outputs, a plurality of routing switch outputs communicatively coupled to the amplifier network, and a plurality of routing switches, selectably communicatively coupling the routing switch network inputs to the routing switch network outputs.

8. (ORIGINAL) The transponder system of claim 7, wherein the routing switch network is a single rail input switching network.

9. (ORIGINAL) The transponder system of claim 8, wherein the routing switch network is communicatively coupled to the amplifier network via a driver network having a plurality of driver network inputs communicatively coupled to a plurality of driver network outputs via a plurality of driver network drivers.

10. (ORIGINAL) The transponder system of claim 7, wherein:

the antenna network comprises a first group of antennae and a second group of antennae;

each of the driver network drivers is communicatively coupled to an antenna in the first group of antennae and an antennae in the second group of antennae.

11. (PREVIOUSLY PRESENTED) A network, comprising:

an first device network having a plurality of first devices;

a second device network, having a plurality of second devices; and

a single rail output switching network, communicatively coupling any of the second devices with any of the first devices, wherein the first device network is an antenna network and the first devices are antennae, and the second device network is an amplifier network and the second devices are amplifiers.

12. (ORIGINAL) The network of claim 11, wherein:

the plurality of first devices includes a first group of first devices and a second group of first devices;

the plurality of second devices include a first group of second devices associated with the first group of first devices and a second group of second devices associated with the second group of first devices.

13. (ORIGINAL) The network of claim 12, further comprising:

a third device network, having:

a plurality of inputs including a first input group and a second input group;

a plurality of outputs including a first output group and a second output group;

wherein:

the first output group is communicatively coupled to the first amplifier group;

the second output group is communicatively coupled to the second amplifier group;

each output of the second output group is communicatively coupled to at least one of the inputs in the first input group; and

each output of the first output group is communicatively coupled to at least one of the inputs in the second input group.

14. (ORIGINAL) The network of claim 13, wherein the first output group is communicatively coupled to the first group of second devices and the second output group is communicatively coupled to the second group of second devices.

15. (ORIGINAL) The network of claim 13, wherein the plurality of third device network inputs are communicatively coupled to a single rail input switching network.

16. (CANCELED)

17. (ORIGINAL) The network of claim 13, wherein the third device network comprises a driver network comprising a plurality of drivers or a frequency converter network comprising a plurality of frequency converters.

18. (ORIGINAL) A method of providing a signal to any one of a plurality of output devices, comprising the steps of:

receiving the signal in a first switch;

selectably coupling the signal to a first output device or a second switch via a first switch according to a first switch selection; and

selectably coupling the signal from the first switch to a second output device or a third output device if the signal is not coupled to the first output device via the second switch according to a second switch selection.

19. (ORIGINAL) The method of claim 18, further comprising the step of:

selectably decoupling the signal from the first switch and coupling a backup input signal to the first switch if the input signal is unavailable.

20. (ORIGINAL) An apparatus for providing a signal to any one of a plurality of output devices, comprising:

a first switch for receiving the signal and for selectably coupling the signal to a first output device or a second switch via the first switch according to a first switch selection; and

a second switch for selectably coupling the signal from the first switch to a second output device or a third output device if the signal is not coupled to the first output device via the second switch according to a second switch selection.

21. (ORIGINAL) The apparatus of claim 20, wherein the first switch selectably decouples the signal from the first switch and coupling a backup input signal to the first switch if the input signal is unavailable.

22. (ORIGINAL) An apparatus for providing a signal to any one of a plurality of output devices, comprising the steps of:

means for receiving the signal;

first means for selectably coupling the signal to a first output device or a second selectably coupling means, wherein the second selectably coupling means selectably couples the signal from the first selectably coupling means to a second output device or a third output device if the signal is not coupled to the first output device.

23. (PREVIOUSLY PRESENTED) The apparatus of claim 22, further comprising:

selectably decoupling the signal from the first switch and coupling a backup input signal to the first switch if the input signal is unavailable.

24. (PREVIOUSLY PRESENTED) The method of claim 18, wherein the signal is selectably coupled to the first output device by no more than one switch.

25. (PREVIOUSLY PRESENTED) The apparatus of claim 20, wherein the first switch is coupled directly to the first output device.

26. (PREVIOUSLY PRESENTED) The apparatus of claim 22, wherein the first means is coupled directly to the first output device.

EVIDENCE APPENDIX

None

RELATED PROCEEDINGS APPENDIX

None